

Ask Me About Human Factors

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During some recent do-it-yourself home improvement projects, I was reminded of two things. First, I make mistakes; and second, they typically happen when I don't do things right in favor of an "appealing" alternative. This isn't unlike what happens in the cockpit or on the road when following the rules is pre-empted for a more attractive path. The trouble is these paths, enticing as they might be, have a nasty habit of ending in a smoking hole.

While my shortcuts left me among the upright to consider my lessons learned, yours might not be so forgiving. In the end, what determines whether you're flying or driving above the ground or lying six feet beneath it has a lot to do with human factors. That being said, let's look at four components of human factors: ability, skill, knowledge and motivation/emotion.

The variables in the equation

- Abilities are those natural gifts you're born with such as good hand-eye coordination that can be refined through training.
 - Skills come from training and are reinforced through practice.
 - Knowledge comes from education, be it from classes, books or other people.
 - ME is what motivates you to do something and how emotions affect your performance.
- It's the vital multiplier because without ME, the best abilities, skills and knowledge would be wasted through inaction. On the other hand, the wrong ME can drive bad decisions.

This systems view of human performance and error applies well to Army accidents. On the aviation side, controlled flight into terrain, and on both the aviation and ground sides, inadequate crew coordination, poor pre-mission planning and hot-dogging, are issues we see accident after accident. Looking at these components can help us understand why errors happen and find ways to prevent or fix them.

Ability

Ability applies to crew selection and crew coordination. Individual abilities should always be considered when choosing crews or discussing roles and responsibilities. Pairing folks with similar abilities might initially seem a good choice, but if they share the same weaknesses, there's no safeguard left to compensate.

Skills

Skills require regular practice. The Army recognizes skills degrade when they're not used, which is the primary reason for readiness level progression and other training as units re-cock. Do you take advantage of all your training opportunities? Do you strive for better skills, or are you simply hoping to get by? Remember, amateurs practice until they get it right; professionals train until they can't get it wrong.

Knowledge

Knowledge equates to currency. Aviators must keep up to date on new policies, procedures and safety of flight messages, along with changing risk assessments and the experiences of other pilots. The same concept applies to ground crews running convoys, conducting security missions or really just about anything.



Keeping current allows leaders and Soldiers to better pre-plan their missions, ensuring they wear the proper personal protective equipment and their aircraft and vehicles are used correctly. Professionals stay current.

Motivation/Emotion

While abilities, skills and knowledge form the foundation of your performance, whether you apply them properly depends on the ME component. Despite good abilities, skills and knowledge, almost all major mishaps have their roots in ME. In other words, Soldiers know what to do and how to do it properly but willfully choose an alternate course of action. Indiscipline, overconfidence and complacency are not knowledge or skills issues, they're "will" issues.

Why do we choose to misapply our abilities, skills and knowledge? It's because we tend to weigh what we should do against what we want to do and, if the latter looks like a better deal, we often go with it instead of what's right. Human error is usually about ME. This is what leads aviators to ignore published minimums because they seem to be a hassle, get in the way of the mission or just don't make sense.

Some Soldiers might cut corners because it makes things easier or seemingly more efficient. They also might take chances for the thrill or fun of it or to impress their peers. They might take things for granted and become complacent because the task at hand is a cinch and, in their minds, doesn't merit much attention or effort. They might drive or fly aggressively because they're ticked off at someone and need to vent. They might press too hard because of misplaced priorities such as "get-home-itis." These are all misguided motives, attitudes or emotions that can drive incorrect actions and increase risk.

Keeping the proper motivation, along with healthy emotions and good attitudes, is a challenge. The first step is to be aware of your own state of mind and that of others around you. Regularly check your emotional state for anger, frustration or apathy. Monitor yourself and your fellow Soldiers. Phrases like "watch this," "that takes too much time," "command is out of touch and doesn't understand the tactical environment," "no sweat" or "we're pressed for time" are indicators something unhealthy is brewing.

Set clear expectations for your own professional behavior and discuss them with those around you. Decide now the top priorities for your own and others' performance. These priorities must include doing the right thing and staying faithful to what's important. If you're the leader, make sure others know your expectations.

Your actions serve as a model for others whether you're an official leader or not, so be an example. This behavior reinforces doing things the right way and positions you as part of the solution rather than part of the problem. Get involved immediately whenever you see another Soldier displaying indiscipline, overconfidence or complacency. Recognize they prefer doing the things the wrong way and changing their mind is going to require some convincing. However, don't give up; take the time to help them see where they're headed.

Finally, make sure there's a real system of accountability in place. When all else fails, the threat of discipline against Soldiers who willfully make bad choices can help them think twice before doing something stupid.

Human performance can be incredibly stellar or unbelievably bad. When solid ability and good training are multiplied by the proper motivation, you have a powerful combination that produces awesome results. On the other hand, gaps in knowledge, inadequate training for the task and, especially, incorrect motivations and emotions reveal your vulnerability to human error. If you want to understand how human factors affect Soldier performance, just look at our equation because the answer is easy—simply $A+S+K * ME$.

FACTORS IMPACTING PERFORMANCE

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$$P=(A+S+K)*ME$$

